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| EXAMINER |
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LY, CHEYNE D

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| ART UNIT | PAPER NUMBER |
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2168

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/733,459

Applicant(s)

TEODOSIU ET AL.

Examiner

Cheyne D. Ly

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-23 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-23 and 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/07/06; 12/11/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: dictionary.com page 2

DETAILED ACTION

1. Applicants' arguments filed January 05, 2007 have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are newly applied. They constitute the complete set presently being applied to the instant application.

2. Applicant's argument directed withdrawn rejections are moot. The instant rejection is **NON-FINAL**.

3. Claims 1-13, 15-23, and 31-33 are examined on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-13, 15-23, and 31-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The phrase "higher precedence" in claim 1, line 11, is a relative phrase which renders the claim indefinite. The term "higher precedence" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example, one of ordinary skill in the art would have attributed the definition "the right to precede in order, rank, or importance; priority" (dictionary.com) to the term "precedence." However, claim 1 does not recite any steps for determining the "order, rank, or priority" of the "fence value." Therefore, claim 1 is not clear as to how one fence value is of "higher precedence" than

Art Unit: 2168

another. The same issue is present in claims 16 and 31. Claims 2-13, 15-23, 32, and 33 are rejected for being dependent from claim 1, 16, or 31. The limitation of the same has been interpreted reasonably broad for the prior art rejection discussed below.

7. The term "the same" in claim 15, line 2, is a relative term which renders the claim indefinite. The term "the same" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example, the instant specification describe the same as being directed the fence value from the same resource (paragraph [0038] of the published application) or the fences value are the same with respect the values they represent. The metes and bound of the claim is not clear due to the relative limitation of the same as discussed above. The limitation of the same has been interpreted reasonably broad for the prior art rejection discussed below.

8. Claim 18 recites the limitation "the other " in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent

any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-13, 15-23, and 31-33 are rejected under 35 U.S.C. 103(a) as being obvious over Gamache et al. (US 6,938,084 B2) (Gamache hereafter) in view of Williams et al. (US 2003/0079100A1) (Williams hereafter).

12. The applied reference (Gamache) has a common assignee, Microsoft Corporation, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

MOTIVATION TO COMBINE

13. Williams describes a need to overcome the danger of two processes attempting to update metadata associated with a particular allocation unit simultaneously, causing data corruption (conflict) (page 1, columns 1-2, [0005]). Gamache describes a “quorum replica set algorithm brings members online and offline with data consistency, including updating unreconciled replica members, and ensures consistent read and update operations.” An artisan of ordinary skill in the art at the time of the instant invention would have been motivated by Gamache to address the need described by Williams to use quorum replica set algorithm to ensure consistent read and update operations.

PRIOR ART

14. In regard to claim 1, Williams discloses a computer-readable medium having computer-executable instructions, comprising:

- a. Retrieving meta-data of a source that is replicated on a plurality of machines (page 3, [0035]), especially, “move data...across storage devices”, and page 6, [0062], especially the disclosure of “each node...is a separate CPU and associated circuitry...”), the resource having meta-data and content that resides on each machine on which the resource is replicated (page 3, [00334]), the meta-data including one or more values that are updated whenever the content of the resource is changed via any local update (page 6, [0062], especially, “fence keys are a mechanism in which metadata updates within a process...”, and page 7, [0070]) and a fence value that is independent of any local changes to the content (page 7, [0069]);

- b. Comparing a first fence value of the content on a first machine of the plurality of machines with a second fence value of the content of a second machine of the plurality of machines (page 7, [0074] to [0075]);

15. However, Williams does not describe the limitation of determining whether the first fence value is of higher precedence than the second fence value; and updating the resource residing on the second machine based on the determining.

16. Gamache describes the determining whether the first fence value is of higher precedence than the second fence value (column 24, lines 51-66, especially, “the highest epoch number” wherein the epoch number has been interpreted as a “fence value” as described by Applicant on pages 16-17); and updating the resource residing on the second machine based on the determining (column 25, lines 8-23, especially, “propagate any needed records from the leader to other replicas...referred to at the set of records to update...”).

17. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

18. In regard to claim 2, Williams in view of Gamache discloses the meta-data is stored in a separate from the content (page 2, [0026], and Figures 5-6 and accompanying description).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

19. In regard to claim 3, Williams describes the claimed invention except for the limitation of “determining one or more differences between the content on the first and second machines

Art Unit: 2168

and transmitting the one or more differences” (column 25, lines 8-12, especially, “propagate any need records from the leader to other replicas”).

20. In regard to claim 4, Williams in view of Gamache discloses updating the resource residing on the second machine comprises transmitting the metadata only (page 1, [0003], especially, “all cached copies of the metadata must be updated...” Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

21. In regard to claim 5, Williams describe the claimed invention except for the limitation of the content on the first and second machines is the same. Gamache discloses he content on the first and second machines is the same (column 24, lines 59-62, especially, “if two or more candidates replicas have the same sequence number, any one of those can serve as the leader replica since each have the same last record”). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

22. In regard to claim 6, Williams in view of Gamache discloses the content comprise file data and file attributes (page 2, [0026]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

23. In regard to claim 7, Williams in view of Gamache discloses each metadata on each machine comprises a digest that summarizes the resource (Figures 5-6 and accompanying description). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

24. In regard to claim 8, Williams in view of Gamache discloses comparing the digests of the meta-data on the machines (page 7, [0074] to [0075]) and bypassing updating if the digests are equivalent (page 7, [0075]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

25. In regard to claims 9 and 10, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the updating the second fence value to equal the first fence value (column 24, lines 51-67, especially, "equal the maximum...another tiebreaker may be used..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

26. In regard to claim 11, Williams in view of Gamache discloses each value is assigned to a portion or portions of its respective resource (page 6, [0065 to [0069]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and

use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

27. In regard to claim 12, Williams describes the claimed invention except for the limitation of content with a certain fence value is not propagated to other machines. Gamache content with a certain fence value is not propagated to other machines (column 25, lines 2-5, especially, “if all available replicas each the same epoch and sequence number for their respective last record, then no propagation of records (FIG. 15B) is needed”). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

28. In regard to claim 13, Williams in view of Gamache discloses content with a certain value is invisible to other machines (page 7, [0070], especially, “locks out the other process from further access to the storage device”, and [0076], especially, “the second process...be denied access to the storage device”). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

29. In regard to claim 15, due to the vague and indefinite issue directed to the limitation of “the same” as discussed above, the Williams in view of Gamache renders the claimed invention obvious as cited above.

30. In regard to claim 16, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the “determining whether a first resource residing

on a first machine should be used to update a second resource residing on a second machine...” (column 24, line 59, to column 25, line 12, especially, “Once a leader is selected, the recovery process continues...to propagate any needed records from the leader to other replicas...”). Gamache describes “preventing propagation from the second machine...” (column 25, lines 2-5, especially, then no propagation of records...is needed..”). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

31. In regard to claim 17, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the limitation of “if the fence values of the first and second resources are equivalent, determining which machine will update the other based on the meta-data other the fence values (column 24, lines 63, “if two or more candidates replicas have the same sequence number, any one of those can serve as the leader replica...”).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

32. In regard to claim 18, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the limitation of a logical clock indicating the last time the corresponding content was updated (column 17, lines 6-13, especially, “time” column 24, lines 51-56, especially, “a last record”, and Figure 1, Operating System 35 is well known in the art to comprise a clock). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage

Art Unit: 2168

media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

33. In regard to claim 19, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the limitation of its corresponding resource may be propagated to other machines until another resource with a higher fence value is located on another machine (column 24, line 59, to column 25, line 12, especially, "Once a leader is selected, the recovery process continues...to propagate any needed records from the leader to other replicas..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

34. In regard to claim 20, Williams in view of Gamache describes the claimed invention as cited above. Further, Williams describes the meta-data associated with the first resource is stored in a separate data structure from its corresponding source (page 1, [0003], especially, "Each file is associated with metadata that identifies which **storage device** and locations on the storage device contain the various parts of the file, and where the parts of the file are located on the device. This metadata is typically stored on the **storage system**"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

35. In regard to claims 21 and 22, Williams in view of Gamache describes the claimed invention as cited above. Further, Gamache describes the limitation of the data structure is

corrupted or deleted (column 18, lines 9-10, especially, "failed replica member is removed...", further comprising rebuilding the data structure (column 17, lines 58-59, "a recovery process") and decrementing the fence value associated with the first resource (column 26, lines 31-59, especially, "the recovery process fails...a count of the number of available replicas is decremented"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

36. In regard to claims 23 and 31-33, Williams in view of Gamache describes the claims as cited above. Further, Gamache describes the limitation of "the first set of resources is loaded from a backup..." (column 2, line 59, to column 3, line 18, especially, "a recovery process...reconciles the states of the available members by propagating the data of that most up-to-date replica member to the other replica members set"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make and use the computer storage media of Williams with the determining and updating described by Gamache to ensure consistent read and update operations.

CONCLUSION

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Williams et al. (US 2004/0181558).

38. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

39. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.


40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

41. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

C. Dune Ly
Patent Examiner
3/17/07




Top Web Results for "precedence"

5 results for: *precedence*[[Nearby Entries](#)]View results from: [Dictionary](#) | [Thesaurus](#) | [Encyclopedia](#) | [All Reference](#) | [the Web](#)*Dictionary.com Unabridged (v 1.1) - Cite This Source***prec·e·dence**  **[pres-i-duh ns, pri-seed-ns]** [Pronunciation Key](#) - [Show IPA Pronunciation](#)

-noun

1. act or fact of preceding.
2. the right to precede in order, rank, or importance; priority.
3. the fact of preceding in time; antedating.
4. the right to precede others in ceremonies or social formalities.
5. the order to be observed in ceremonies by persons of different ranks, as by diplomatic protocol.

[Origin: 1475-85; [PRECED\(ENT\)](#) + [-ENCE](#)]*Dictionary.com Unabridged (v 1.1)**Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.**American Heritage Dictionary - Cite This Source***prec·e·dence**  **(prĕs'i-dəns, prī-sēd'ns)** [Pronunciation Key](#)

n.

1. The fact, state, or right of preceding; priority: *Applications arriving first will receive precedence.*
2. Priority claimed or received because of preeminence or superiority: *The company asserted its precedence as the leading manufacturer of microchips.*
3. A ceremonial order of rank or preference, especially as observed on formal occasions: *Recipients of military honors were called in order of precedence—highest ranking officers first.*

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